

Door County Floodplain Program Informational Meeting

Door County Land Use Services Department
Wisconsin Department of Natural Resources

January 15, 2018



Floodplain = Land affected by flood event with a 1% chance of occurring in any given year
(often incorrectly called “100-year flood”)

FLOOD INSURANCE STUDY



DOOR COUNTY, WISCONSIN, AND INCORPORATED AREAS

Community Name	Community Number
Door County, Unincorporated Areas	550109
Egg Harbor, Village of	550029
Ephraim, Village of	550611
Forestville, Village of	550110
Sister Bay, Village of	550030
Sturgeon Bay, City of	550111



March 2, 2009



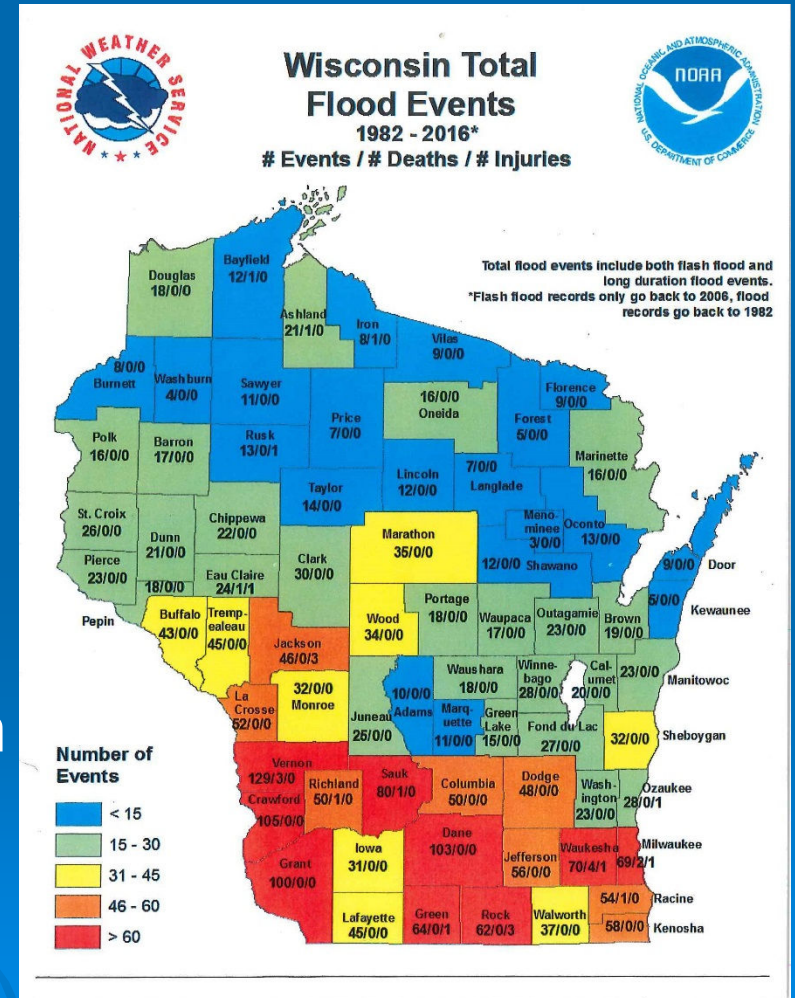
Federal Emergency Management Agency
FLOOD INSURANCE STUDY NUMBER
55029CV000A

Understanding Flood Risk

DID YOU KNOW? Flooding occurs in all 50 states with nearly **12.5 MILLION** square miles identified as **high-risk** areas.



Floods are the **#1** natural disaster in the United States

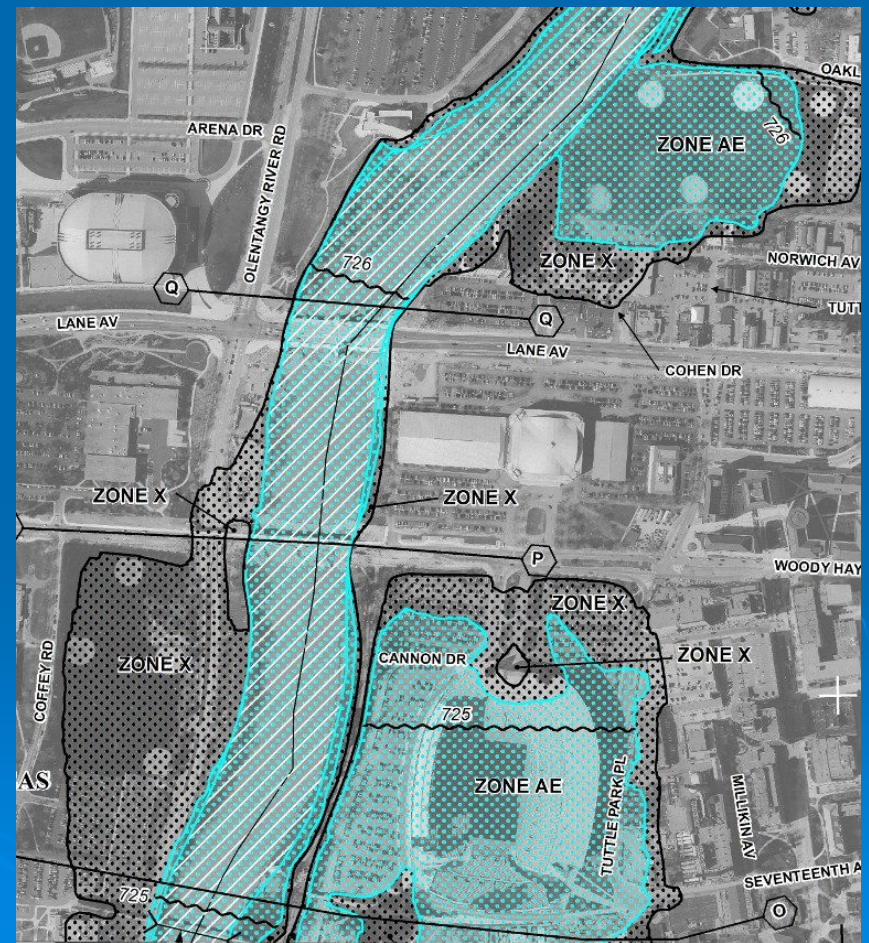


What is your level of flood risk?

Low Risk – Zone X
(unshaded)

Moderate Risk – Zone X

High Risk – Special Flood
Hazard Areas





FEMA

REGULATORY BRANCH

Door County
Floodplain Zoning Ordinance

LENDING BRANCH

Mortgages & Refinancing

INSURANCE REQUIREMENT

Flood Insurance

National Flood Insurance Program (NFIP)

Created by the National Flood Act of 1968

- Participation in the NFIP is **Voluntary**
- Mutual agreement with FEMA and Community
- Community agrees to adopt and enforce floodplain management regulations
- Participation in the NFIP makes flood insurance available to the residents and businesses in your community
- Flood insurance is a requirement of federal loans.
 - Many forms of disaster assistance are a type of federal loan or other federal financial assistance
- Eligible for FEMA Hazard Mitigation Grants
- Management of development in the floodplains results in construction practices that can reduce flood losses and the high costs associated with flood disasters to all levels of government

Components of the NFIP

Mapping Flood
Hazards

Know
Your
Risk

Insure
Your
Risk

Insurance and
Outreach

Reduce Your
Risk

Flood
Mitigation

Flood Management



National Flood Insurance Program

is aimed at reducing the impact of flooding on private and public structures

Federal Role

- Enroll communities in National Flood Insurance Program (NFIP)
- Provide Federal Flood Insurance to citizens in participating communities
- Risk identification (Map Production)
- Establish minimum development protection standards
- Provide flood insurance coverage
- Inform and educate the public
- Provide technical assistance

Local Role

- Adopt and enforce flood damage prevention ordinance
- Permit development in Special Flood Hazard Area (SFHA)
- Require elevation data on SFHA structures
- Provide Flood zone determinations
- Substantial damage/substantial improvement determinations during disaster & non-disaster events
 - Field Inspections
 - Rectify violations
 - Inform and educate the public

WDNR

- Provide technical assistance and training for NFIP compliance
- Conduct Community Assistance Contacts and Visits
- Facilitate Flood Insurance Rate Map remapping process
- Attend community meetings as requested
- Provide model ordinance for communities
- Inform and educate the public

Insurance



Quick Facts About Flood Insurance

- Flood damage is not covered by homeowners insurance.
- You can buy flood insurance no matter your flood risk.
- The low-cost Preferred Risk Policy is ideal for homes & businesses currently mapped in moderate to low risk areas.
- Flood insurance is easy to get.
- You can buy flood insurance through licensed property insurance agents; call yours today.
- Contents coverage is available.
- There is usually a 30-day waiting period before coverage goes into effect.



Map Change Scenarios

- Newly mapped into a high risk area
- Removed from the high risk area
- Change in type of high risk area
- Change in BFE
- No change



Newly Mapped Procedure

Newly mapped into SFHA on or after April 1, 2015


- Eligible for “newly mapped” insurance rates, if coverage is effective within 12 months of map revision. (Not eligible for newly mapped rates if coverage not effective within 12 months of map change.)
- Post-FIRM building may qualify for built-in-compliance grandfathering
- Pre-FIRM building may qualify for Pre-FIRM subsidized rates

Grandfathering

- If insurance policy obtained prior to effective date of map change, property owner may retain rates based on prior zone/BFE.
 - Continuous coverage must be maintained.
 - Rates will gradually increase up to new zone/BFE.
- Structure must have been built in compliance with FIRM in effect at time of construction.

Elevation Certificate

Now required for new policy rating.



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

2015 EDITION

U.S. DEPARTMENT OF HOMELAND SECURITY Federal Emergency Management Agency National Flood Insurance Program		ELEVATION CERTIFICATE <small>Important. Read the instructions on pages 1-5.</small>		OMB No. 1560-0008 Expires February 28, 2008	
SECTION A - PROPERTY INFORMATION				For Insurance Company Use	
21. Building Owner's Name: <u>William Smith</u> 22. Building Street Address (including Apt., P.O. Box, or other info. No.) or P.O. Box and Box No.: <u>3802 Woodbridge Road</u> City: <u>Floodville</u> State: <u>ST</u> Zip: <u>98765</u> 23. Property Description (i.e., and Block Number, Tax Parcel Number, Legal Description, etc.): <u>Lot 2, Block 4, Foster Creek Addition</u>				Policy Number: Company ISO Number:	
24. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.): <u>Residential</u> 25. Estimated square ft. Living: _____ 26. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance. 27. Building Elevation Number: <u>1</u> 28. For a building with a roof space or enclosure, provide: a) Square footage of roof space or enclosure: _____ sq. ft. b) No. of permanent flood openings in the roof space or enclosure within 1.5 feet above adjacent grade: _____ sq. ft. c) Total net area of flood openings in A8: _____ sq. ft. d) For a building with an attached garage, provide: 1) Square footage of attached garage: _____ sq. ft. 2) No. of permanent flood openings in the attached garage within 1.5 feet above adjacent grade: _____ sq. ft. 3) Total net area of flood openings in A8: _____ sq. ft.					
SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION					
29. FIRM Community Name & Community Number: <u>Floodville 123456</u>		30. Zone: <u>1-A</u>		31. Map Scale: <u>5"</u>	
32. Map Sheet Number: <u>123456</u> Date: <u>5/15/80</u> 33. FIRM Date: <u>5/15/80</u>		34. Flood Zone: <u>A1.5</u>		35. Base Flood Elevation (BFE) (AG, see back flood deck): <u>1142.8</u>	
36. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item 35: <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other (Describe): _____ 37. Indicate whether the data used for BFE in Item 35 is: <input checked="" type="checkbox"/> ABOVE 1000 <input type="checkbox"/> ABOVE 1001 <input type="checkbox"/> Other (Describe): _____ 38. Is the building located in a Coastal Barrier Resources System (CBRS) area or (Wetlands Protection Area (WPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Code: _____					
SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)					
39. Building elevations are based on: <input type="checkbox"/> Construction Certificate <input type="checkbox"/> Building Under Construction <input checked="" type="checkbox"/> Firmed Construction (A new Construction Certificate will be required when construction of the building is complete.) 40. Elevations - Zones A1-A30, A2, A3, A4 (with 10% V), V1-V30, V (with 10% V), AR, AR1, AR2, AR3, AR4, AR5, AR6, AR7, AR8, AR9, AR10, AR11, AR12, AR13, AR14, AR15, AR16, AR17, AR18, AR19, AR20, AR21, AR22, AR23, AR24, AR25, AR26, AR27, AR28, AR29, AR30, AR31, AR32, AR33, AR34, AR35, AR36, AR37, AR38, AR39, AR40, AR41, AR42, AR43, AR44, AR45, AR46, AR47, AR48, AR49, AR50, AR51, AR52, AR53, AR54, AR55, AR56, AR57, AR58, AR59, AR60, AR61, AR62, AR63, AR64, AR65, AR66, AR67, AR68, AR69, AR70, AR71, AR72, AR73, AR74, AR75, AR76, AR77, AR78, AR79, AR80, AR81, AR82, AR83, AR84, AR85, AR86, AR87, AR88, AR89, AR90, AR91, AR92, AR93, AR94, AR95, AR96, AR97, AR98, AR99, AR100, AR101, AR102, AR103, AR104, AR105, AR106, AR107, AR108, AR109, AR110, AR111, AR112, AR113, AR114, AR115, AR116, AR117, AR118, AR119, AR120, AR121, AR122, AR123, AR124, AR125, AR126, AR127, AR128, AR129, AR130, AR131, AR132, AR133, AR134, AR135, AR136, AR137, AR138, AR139, AR140, AR141, AR142, AR143, AR144, AR145, AR146, AR147, 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Insurance

Door County
Flood Insurance
Example

Slab on Fill

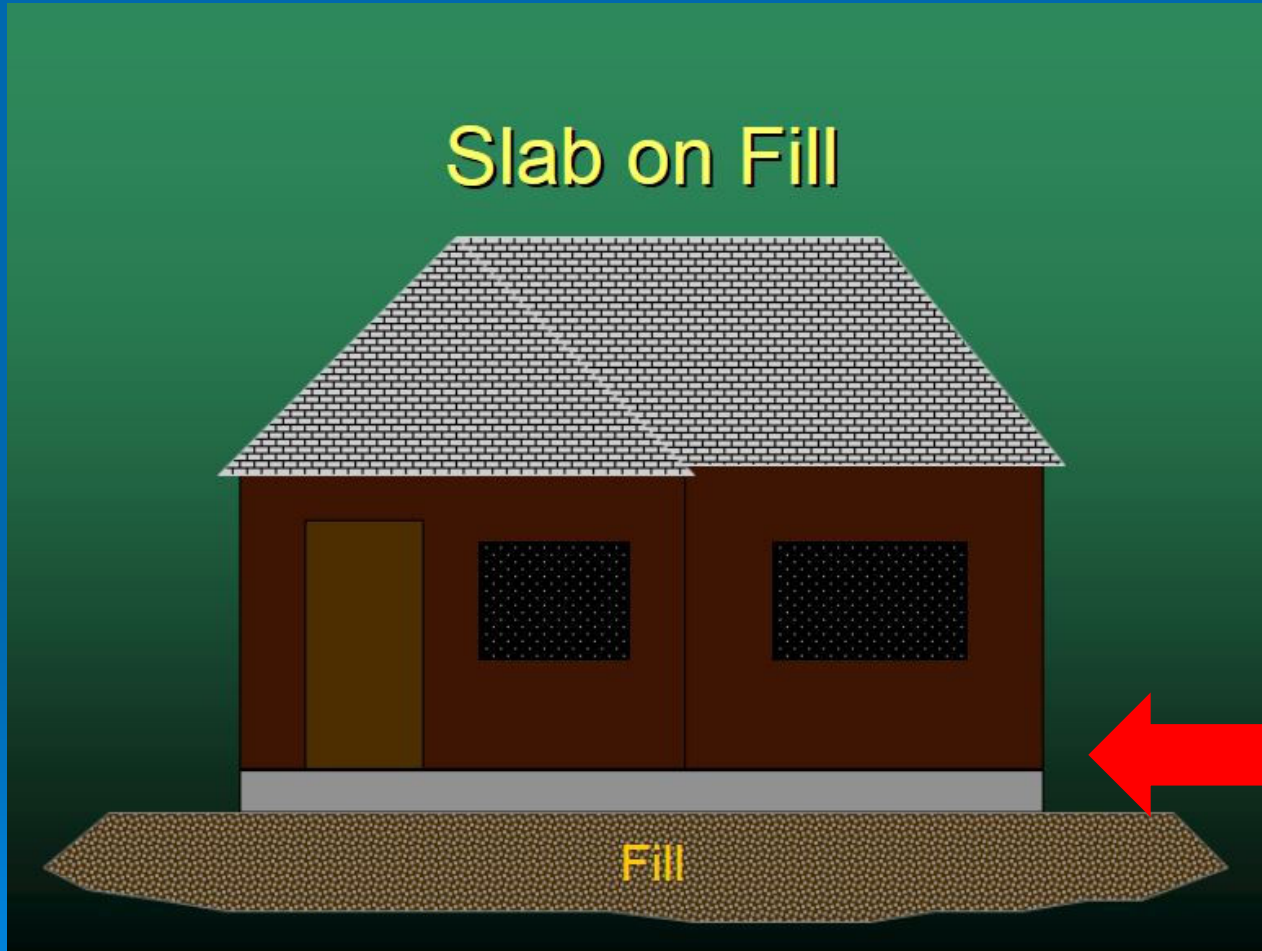


At 2 feet (FPE)

\$3,000/Yr

Insurance

Slab on Fill



Fill



At 3 feet

\$675/Yr

Door County Floodplain Zoning

- 1965: Original Wisconsin floodplain legislation. Stated purposes of protecting human life & health and minimizing property damage & economic losses. Municipalities required to adopt ordinance within 1 year after hydraulic and engineering data available to formulate ordinance.
- 1968 & 1973: Federal legislation: National Flood Insurance Act & Flood Disaster Protection Act.
- 1976: Federal money to produce zoning ordinance & preliminary flood insurance study (FIS) for Door County.
- 1977: Final flood insurance study issued June 1977.
- 1978: Door County's first Flood Insurance Rate Maps (FIRM) issued April 3rd by U.S. Dept. of Housing and Urban Development (HUD). County did not enact floodplain zoning in part due to a lack of perceived flood hazards.

Door County Floodplain Zoning, *continued*

- 1982: Pressured by insurance and financial interests, Door County adopted floodplain zoning based on 1977 FIS & 1978 FIRMs.
- 1986 & 1995: Ordinance updated per state & federal changes.
- 2005: Federal Emergency Management Agency (FEMA) now responsible for program instead of HUD.
- 2006: FEMA contracted with private consultant to update flood insurance study and modernize maps.
 - Incorporated studies reflecting record high water elevations on Lake Michigan mid-late '80s, wind set-up (Seiche effect), wave run-up (40 knot winds).

Door County Floodplain Zoning, *continued*

➤ January 2009: New D.C. Floodplain Zoning Ordinance and maps adopted.

1. Increased elevations on Green Bay and Lake Michigan. (Inland lakes remained the same.)
2. Additional floodplain mapped adjacent to unstudied rivers/streams.
3. Some regulatory changes.

(Note: In December 2017, updated Floodplain Zoning Ordinance text adopted. Model ordinance was replaced in 2012, after county's 2009 ordinance was adopted, but we were not aware of that until recently.)

Floodplain Areas to Date

- Floodway (no construction and no fill)
- Flood fringe (elevate and flood-proof structures)
 - AE Zone, studied areas with known base flood elevations such as Green Bay & Lake Michigan.
 - A Zone, unstudied areas with no base flood elevation or areas with studies that FEMA has not approved for mapping purposes. More difficult to develop and some of the highest insurance rates.

Many smaller streams are unstudied.

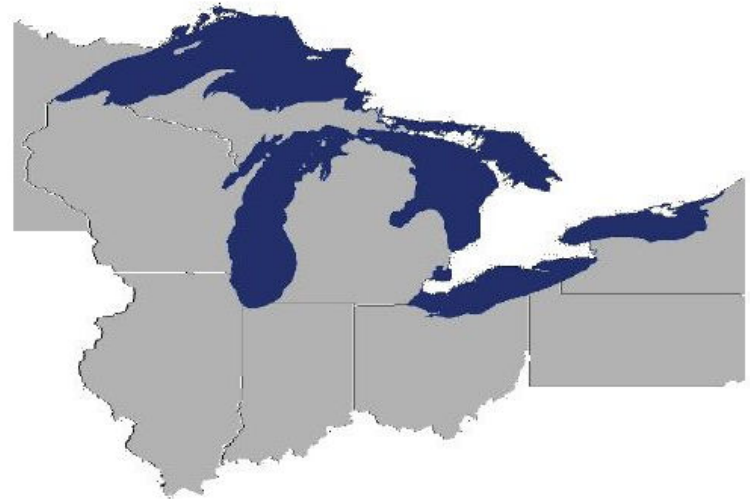
Inland Lakes (Europe, Kangaroo, Clark) have been studied and the county has local elevations that may be used for regulatory purposes. Issues with existing studies and required elevations.

Regulatory to Date

- Property in the floodplain is buildable, but subject to compliance with floodplain zoning and sanitary regulations.
- Elevations required by registered land surveyor or engineer and plans designed by an engineer or architect to be floodproofed as part of an application for construction.
- Proposed residence in floodplain:
 - set elevation for crawlspace,
 - set elevation for 1st floor, and
 - set elevation for fill (15' around the structure).
- Addition to non-conforming residence:
 - Limited to 50% of equalized assessed value of home; addition is required to meet elevation & fill requirements.
 - If addition exceeds 50% in value, entire project must be elevated & fill is required.

Why is FEMA updating this Community's Flood Maps?

- Population growth & increased development
- Movement in rivers & coastline
- Changing weather patterns & updated rainfall data



FEMA Great Lakes Coastal Flood Study, 2012 – present (on-going)

- Early 2012: Staff learn about new FEMA Coastal Analysis which includes all the Great Lakes
- June 26, 2012: County letter to FEMA with concerns
- September and October 2012: Staff input to FEMA on preliminarily designated study points
- October 2012: County board resolution expressing concerns
- November 2012: Staff receives Lake MI draft report
- January 2013: Staff submits input to FEMA on draft report

FEMA Great Lakes Coastal Flood Study, 2012 – present (on-going)

- August 1, 2017: Notification from FEMA of meeting regarding draft work maps
- August 21, 2017: FEMA meeting in Sturgeon Bay
- September 29, 2017: County submitted comments to FEMA regarding elevation break points on draft work maps
- December 21, 2017: FEMA response to Door County's comments.
- FEMA still needs to join stream mapping with Great Lakes study.

2017 FEMA Draft Work Maps

Differences from existing (2009) maps:

- Generally, lower elevations along Green Bay and Lake Michigan, so less properties in floodplain

Notes:

The county is currently working with Wisconsin Department of Natural Resources to have the three inland lakes studied and incorporated into the new maps.

Streams are not part of the study.

- Biggest change: “VE” zones

Zone VE

Areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are shown. Mandatory flood insurance purchase requirements and floodplain management standards apply.




V-Zone Floodplain Management

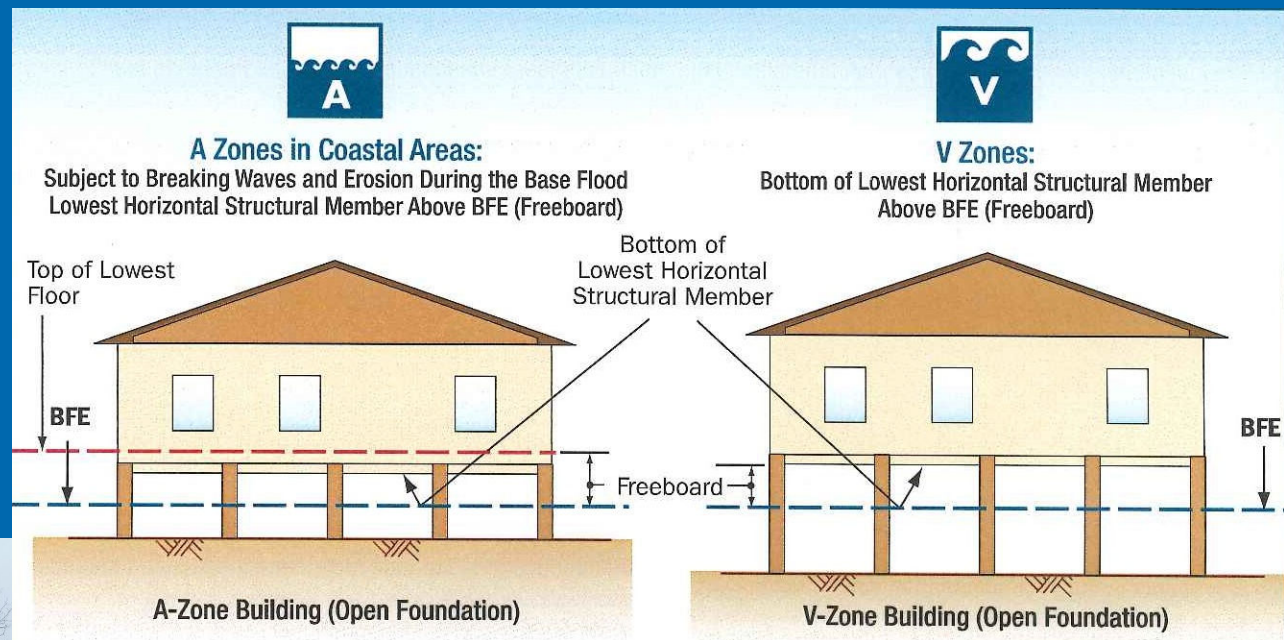
44 CRF 60.3(e)

The community must require that all new construction and substantial improvements have the lowest horizontal structural member of the lowest floor elevated to or above the base flood level,

...with the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls...



Lowest horizontal structure member



Other key standards in Zone VE

- Fill for structural support is prohibited.
- Elevated portion of the building and piling/column foundation must be designed to withstand water and wind loads acting simultaneously under base flood conditions.
- Structural design, specifications and plans for construction must be developed or reviewed and certified by a registered professional engineer or architect.

Note: The V Zone design certificate is not a substitute for the NFIP Elevation Certificate (see Fact Sheet No. 1.4, Lowest Floor Elevation), which is required to certify as-built elevations needed for flood insurance rating.

V ZONE DESIGN CERTIFICATE

Name _____ Policy Number (Insurance Co. Use) _____
Building Address or Other Description _____ City _____ State _____ Zip Code _____
Permit No. _____

SECTION I: Flood Insurance Rate Map (FIRM) Information

Community No. _____ Panel No. _____ Suffix _____ FIRM Date _____ FIRM Zone(s) _____

SECTION II: Elevation Information Used for Design

[NOTE: This section documents the elevations/depths used or specified in the design - it does not document surveyed elevations and is not equivalent to the as-built elevations required to be submitted during or after construction.]

1. FIRM Base Flood Elevation (BFE) _____ feet*
2. Community's Design Flood Elevation (DFE) _____ feet*
3. Elevation of the Bottom of Lowest Horizontal Structural Member _____ feet*
4. Elevation of Lowest Adjacent Grade _____ feet*
5. Depth of Anticipated Scour/Erosion used for Foundation Design _____ feet
6. Embedment Depth of Piling or Foundation Below Lowest Adjacent Grade _____ feet

* Indicate elevation datum used in 1-4: ☐ NGVD29 ☐ NAVD88 ☐ Other _____

SECTION III: V Zone Design Certification Statement

I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- The bottom of the lowest horizontal structural member of the lowest floor (excluding piles and columns) is elevated to or above the BFE.
- The pile and column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of the wind and water loads acting simultaneously on all building components. Water loading values used are those associated with the base flood***. Wind loading values used are those required by the applicable State or local building code. The potential for scour and erosion at the foundation has been anticipated for conditions associated with the base flood, including wave action.

SECTION IV: Breakaway Wall Design Certification Statement

NOTE: This section must be certified by a registered engineer or architect when breakaway walls are designed to have a resistance of more than 20 psf (0.96 kN/m²) determined using allowable stress design.

I certify that: (1) I have developed or reviewed the structural design, plans, and specifications for construction of breakaway walls to be constructed under the above-referenced building and (2) that the design and methods of construction specified to be used are in accordance with accepted standards of practice** for meeting the following provisions:

- Breakaway wall collapse shall result from a water load less than that which would occur during the base flood***.
- The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (see Section III).

SECTION V: Certification and Seal

This certification is to be signed and sealed by a registered professional engineer or architect authorized by law to certify structural designs. I certify the V Zone Design Certification Statement (Section III) and _____ the Breakaway Wall Design Certification Statement (Section IV, check if applicable).

Certifier's Name _____ License Number _____
Title _____ Company Name _____
Address _____
City _____ State _____ Zip Code _____
Signature _____ Date _____ Telephone _____

Place Seal Here

Next Steps

- Door County can request the study data from FEMA in order to make it available to property owners, if desired. (Summer 2018?)
- 12-18 months from now: FEMA anticipates finishing preliminary maps.
- Open house meeting will be held to present maps. 30-day appeal and protest period will start immediately after.
- Formal adoption deadline will be set by FEMA after the appeal period.
- Hearing before county Resource Planning Committee.
- Adoption by county board of final maps and ordinance.

SELECTION OF ENGINEERING CONSULTANT FOR APPEAL/PROTEST PERIOD

- Search for an engineer familiar with FEMA Great Lakes Coastal Analysis.
- Develop scope of services for consultant.
- Obtain quote with list of references & similar projects.
- Contact references and review similar project information.
- The selection of an engineering consultant is your responsibility.

Amendment Processes for Adopted Maps

- LOMAs (Letters Of Map Amendment)
- LOMRs (Letters Of Map Revision)

Local Resources

- Door County Land Use Services Department
 - 1982 and 2009 (existing) hard-copy floodplain maps
 - Hard-copy FEMA draft work maps (August 2017)
 - Website: Existing ordinance text, August 2017 FEMA presentation, this presentation, list of local surveyors, floodplain zoning application forms
- Door County web map
 - Existing (2009) digital floodplain maps
 - 2017 color aerial photos
 - Parcel boundaries
 - 2-foot topographic contour layers

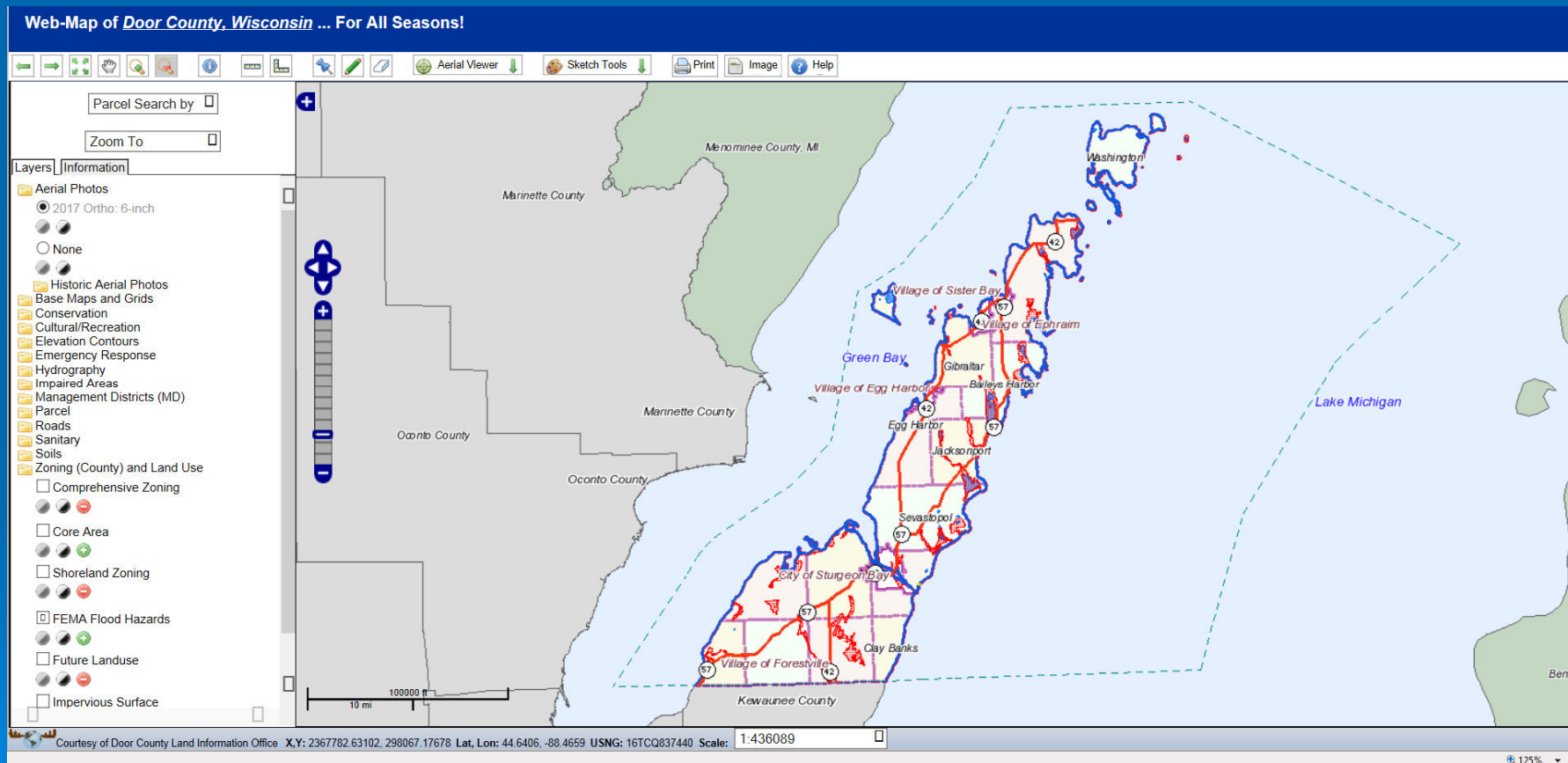
Land Use Services Department website:

<http://map.co.door.wi.us/planning/>

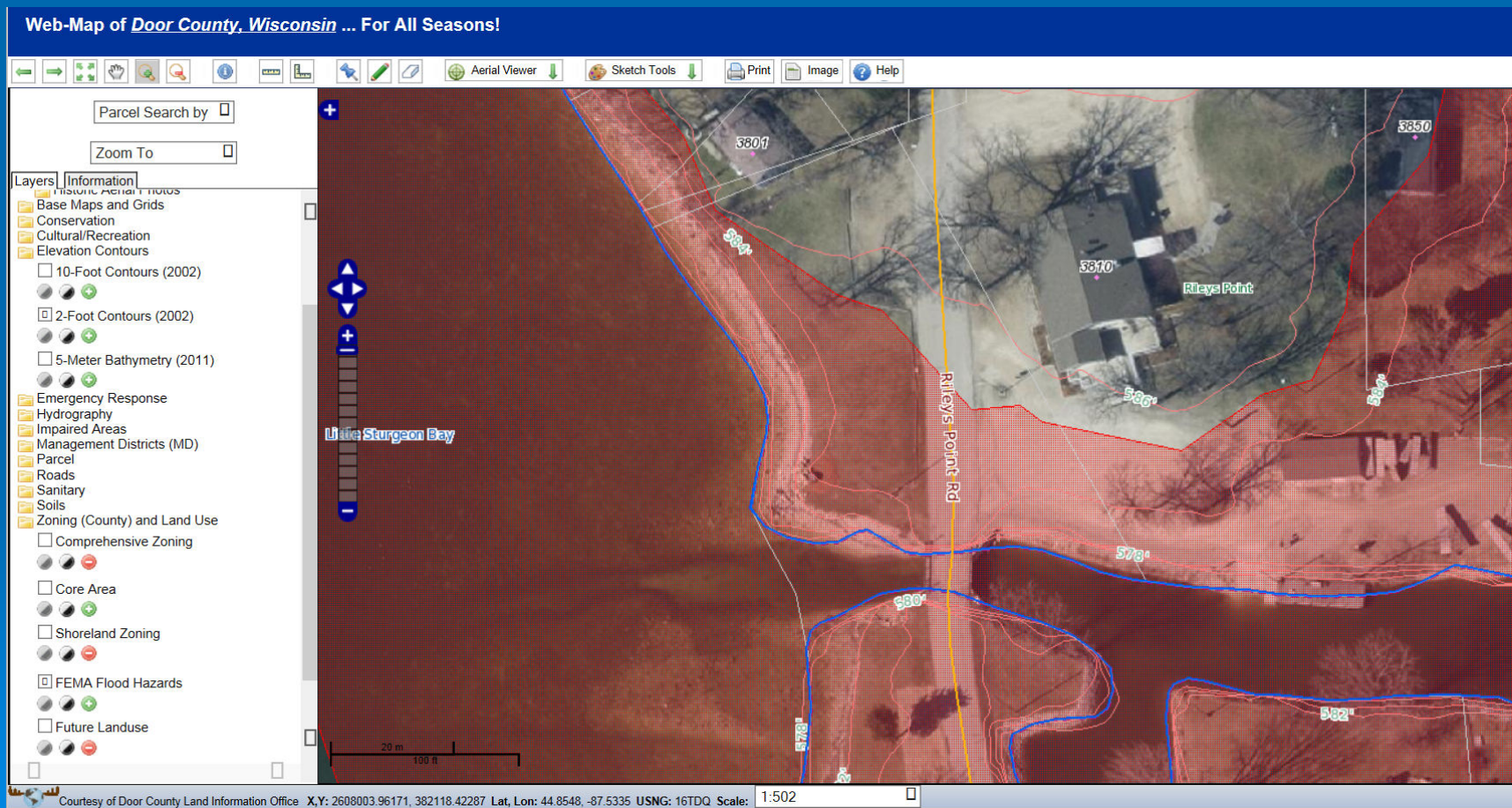
 <p>Door County, WI Government Website</p>	<p>Welcome to the Door County Planning Department Home Page</p> <p>Planning & Administering Land Use for Door County, Wisconsin</p>	
<p><u>Department Information</u></p> <p>Door County Gov Center Planning Department 3rd Floor 421 Nebraska Street Sturgeon Bay, WI 54235</p> <p>Phone: 920-746-2323</p> <p>Fax: 920-746-2387</p> <p><u>E-mail Planning Dept.</u></p>	 <p>Monday, January 8, 2018</p>	<p>Office Hours:</p> <p>Monday - Friday 8 am - 4:30 pm</p> 
<p><u>General Information</u></p> <p><u>Zoning Forms</u></p> <p><u>WI Statutes 59.69 - County Zoning</u></p> <p><u>Permit Fees</u></p> <p><u>Miscellaneous Fees</u></p> <p><u>Wetland Delineators</u></p> <p><u>Building & Zoning Officials</u></p> <p><u>Registered Land Surveyors</u></p>	<p>(Adobe Acrobat Reader is needed to View or Print the linked Ordinances and Forms below and left. If you do not have Adobe Acrobat Reader on your machine, a FREE download can be obtained from <u>Adobe's website</u>)</p> <p><u>Plans, Programs, & Resources</u></p> <p><u>Comprehensive and Farmland Preservation Plan 2035</u></p> <p><u>Door County Bicycle, Pedestrian, and Recreational Facilities Plan</u> (18.9 Meg pdf doc) and <u>Appendices</u> (9.9 Meg pdf doc)</p> <p><u>Door County Bike Routes map app</u></p> <p><u>Door County Hazard Mitigation Plan</u></p> <p><u>Wisconsin's Working Lands Initiative</u></p>	

WEB MAP MAIN PAGE:

<http://map.co.door.wi.us/map/>



CURRENT FLOODPLAIN LAYER WITH 2-FOOT CONTOURS



Federal Resources

FLOOD MAPPING

- ▶ www.greatlakescoast.org
- ▶ www.fema.gov/preliminaryfloodhazarddata
- ▶ **FEMA Map Information eXchange (FMIX): 1-877-FEMA-MAP (1-877-336-2627)**
 - General mapping questions, NFIP rules & regulations, etc.
 - www.floodmaps.fema.gov/fhm/fmx_main.html
- ▶ **FEMA Flood Map Service Center (MSC): msc.fema.gov**
 - Self-service information & FAQs

FLOOD INSURANCE

- ▶ **National Flood Insurance Program (NFIP) Help Center : 1-800-427-4661**

Great Lakes Coastal Flood Study:

<http://www.greatlakescoast.org/>

1. http://greatlakescoast.org/pubs/factSheets/GLC_FS_FS1_ProgramSummary.pdf
2. http://greatlakescoast.org/pubs/factSheets/GLC_FS_FS3_StormSurge_StormSampling_Methodology.pdf
3. <http://www.greatlakescoast.org/great-lakes-coastal-analysis-and-mapping/>
4. <http://www.greatlakescoast.org/great-lakes-coastal-analysis-and-mapping/great-lakes-flood-zones-overview/>

Questions?

